

Installing Solaris 7 on a Sparc Workstation

ITOS Edition

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1 Overview

This is a recipe for installing Solaris 7 on a Sparc workstation that will run the ITOS. This recipe installs all the third party packages needed to run or maintain ITOS.

This recipe configures each workstation so that it can be a standalone system, a cluster client, or a cluster server.

The basic recipe is:

1. Install Solaris 2.7. See Chapter 2 [Install Solaris 2.7], page 1.
2. (optionally) Install Answerbooks. See Chapter 3 [Install Answerbooks], page 2.
3. Install Patches. See Chapter 4 [Install Patches], page 3.
4. Either restore from our CD-ROM (see Chapter 5 [If you have our CD-ROM], page 3) or follow our procedure for setting up the first workstation by hand (see Chapter 6 [1st Workstation], page 4).

2 Install Solaris 2.7

1. Boot the computer from the CD-ROM labeled Solaris 7 Software. You might need to stop-A to get to an ‘Ok’ prompt; from the ‘Ok’ prompt enter ‘boot cdrom’. It may take several minutes(10-30 depending on the machine) to boot from the CD-ROM; eventually OpenWindows will start ...
2. The first window lets you select languages and locales. Do not select the defaults; instead select ‘English’ and ‘USA (ISO8859-1)’. Note that we recommend ‘USA (ISO8859-1)’, not ‘USA (ascii)’!
3. Click Continue twice to get past the next two windows, then enter this machine’s short host name. I.e enter ‘sunland’, not ‘sunland.gsfc.nasa.gov’. (If you enter the long name, NIS gets confused; if you enter the short name, sendmail gets confused. Sun recommends entering the short name). The next windows are self-explanatory. Networked? yes.
4. Select None at the ‘Name Service’ window. Although we use NIS, we prefer to configure that manually after the OS has been installed.
5. If the system is part of a subnet, enter the subnet mask.
6. Select the time zone. We usually select by Geographic Region. Region us, timezone eastern, continue.
7. Eventually you’ll get to the screen that asks you to select whether this is an upgrade or an initial install. Always select Initial, even if it’s actually an upgrade.
8. Normally we do not allocate space for diskless clients and/or AutoClient systems. Select continue.
9. Normally we do not select any additional languages. Select continue
10. Select ‘Entire Distribution’. If you’re on an Ultra Sparc, select ‘Include Solaris 64 Bit Support’.
11. Select which disks you want to install onto, then select auto layout.

12. You will be given a list of file systems, make sure that ‘/’, ‘/usr’, ‘/var’, ‘swap’ are selected and if you are going to load Answer-Books, add ‘/opt’ as well. Then click [\(Continue\)](#).
13. At the ‘File System and Disk Layout’ window click [\(Customize\)](#).
14. At the ‘Customize Disks’ configure the file systems. The following are suggested configurations:

For disks larger than 1GB:

‘/’ – 60MB

‘/var’ – 100MB

‘swap’ – 256MB (or twice RAM, whichever is larger)

‘/usr’ – 720MB

‘/export’ – whatever’s left

For ~1GB disks (we don’t recommend squeezing Solaris onto anything smaller):

‘/’ – 120MB

‘swap’ – 256MB

‘/usr’ – whatever’s left (at least 620MB)

15. No, we don’t want to mount software from a remote file server. Click [\(Continue\)](#) at this window.
16. At the ‘Profile’ window, elect ‘Begin Installation’ and Select ‘Auto Reboot’.
17. Get lunch or something - this will take a while.
18. When the machine reboots, it will ask for the root password. Enter the root password.
19. A long message will come up asking if want to allow your system to auto shutdown after 30 minutes. At the [y,n,?] prompt, enter ‘n’.
20. Should system save answer ... [y,n,?] enter ‘y’.
21. Log in as root. Type eject in a terminal window to eject the CD-ROM. We select CDE and set desktop options now (i.e., we like ‘Point In Window To Make Active’ and we hate ‘Raise Window When Made Active’; we like ‘Return to Home session’ and we like the ‘Logout Confirmation Dialog’ to be off).

3 Install Answerbooks

This step is optional. Assuming you don’t have a separate ‘/opt’ filesystem, create ‘/opt’ by:

```
# mkdir /export/opt  
# ln -s /export/opt /opt  
#
```

We don’t usually create a ‘/opt’ filesystem since it’s so hard to size it properly.

Anyway, once you’ve got ‘/opt’:

1. Insert the ‘Solaris 7 Documentation’ CD-ROM. A File Manager window will appear.

2. Click the ‘installer’ icon.
3. Click **OK** on the window that pops up. Don’t enter anything in the Options or Arguments fields.
4. Select ‘default install’.

4 Install Patches

1. Retrieve the latest public patch cluster from Sun (<http://sunsolve.Sun.COM/pub-cgi/show.pl?target=7.0>). Be sure to get the cluster for the appropriate CPU. Save the file on a filesystem with plenty of space; for example, ‘/export’.
2. To install the patch cluster, it is strongly recommended that the system be in single-user mode. Get there by doing:

```
# reboot -- -s
```

The system reboots to single-user mode. When prompted, enter the root password to log in.

3. Now, assuming you downloaded the patch file to ‘/export’, unzip and install the patch as follows:

```
# mountall
# cd /export
# unzip 7_Recommended.zip
# cd 7_Recommended
# ./install_cluster
```

Expect the installation to take 15 minutes or so.

4. When the installation completes successfully, remove what we downloaded and unzipped and reboot:

```
# cd ..
# rm -rf 7_Recommended*
# reboot
```

5 If you have our CD-ROM

See Chapter 6 [1st Workstation], page 4, if you don’t have our CD-ROM.

Insert the CD-ROM, it will automatically mount.

```
# cd /cdrom/cdrom0
# ./INSTALL
```

Check Errata to see if there are any last-minute things you need to do.

Reboot using `reboot -- -r` for the installation to take effect.

5.1 Errata

- ‘/etc/hosts’ doesn’t contain your fully qualified host name; only the unqualified name.
- ‘/etc/defaultrouter’ might be wrong.
- You’ll need to create ssh keys:


```
# /usr/local/bin/ssh-keygen -b 1024 -f /etc/ssh_host_key -N ''
```
- NIS clients and servers: ‘etc/defaultdomain’ is empty and your domainname isn’t set.
- NIS servers: ‘/var/yp/securenets’ and the files in ‘/var/yp/maps’ are mostly empty. After editing these files and setting your domainname, run ypinit -m to become an NIS server.
- NIS clients: After setting your domainname, run ypinit -c to become an NIS client.

6 Setting up the First Workstation

This section describes how to set up the first workstation so that you can make a CD-ROM that will simplify setting up additional workstations.

Log in as root and open an xterm window. In that window:

```
# exec ksh
# PS1='$PWD#'
/# set -o emacs
/#
#
```

This establishes a friendlier initial working environment.

6.1 Configure Networking

1. Edit ‘/etc/hosts’. Add the fully qualified host name to the line for this system.
2. Create ‘/etc/resolv.conf’. This makes it a little bit easier to copy stuff from other machines. It should look something like:

```
/# cd /etc
/etc# cat > resolv.conf
domain my.domain
nameserver 99.99.99.99
^D
/etc#
```

3. Create ‘/etc/shells’:

```
/etc# cat > shells
/bin/sh
/bin/csh
/bin/ksh
/usr/local/bin/bash
/usr/local/bin/tcsh
^D
```

```
/etc#
```

(We'll add bash and tcsh later).

4. Make sure '/etc/defaultrouter' exists. It should be one line, the IP address of the default router. For example:

```
/etc# cat defaultrouter
99.99.99.99
^D
/etc#
```

5. Disable inetd services (we'll restore services when we install tcp-wrappers and ssh). Comment out everything except the 'rstatd' line in '/etc/inetd.conf'.
6. Disable sendmail.

```
/etc# cd /etc/mail
/etc/mail# mv sendmail.cf sendmail.cf-dist
/etc/mail# cd /
#
```

7. Give root a reasonable working environment:

```
#!/bin/sh
# cat > .profile
PATH=/bin:/sbin:/usr/sbin:/usr/local/bin:/usr/dt/bin
PATH=$PATH:/usr/openwin/bin:/usr/ccs/bin:/usr/ucb
alias lf='bin/ls -CF'
if [ x$PS4 != x ] ; then
    set -o emacs
    PS1='$PWD# '
fi
export ENV=.profile
^D
#!/bin/sh
# cat > .bashrc
PATH=/bin:/sbin:/usr/sbin:/usr/local/bin:/usr/dt/bin
PATH=$PATH:/usr/openwin/bin:/usr/ccs/bin:/usr/ucb
alias lf='bin/ls -CF'
PS1='\w# '
^D
#!/bin/sh
# cat > .Xdefaults
OpenWindows.AutoRaise: False
OpenWindows.SetInput: followmouse
OpenWindows.ShowMoveGeometry: true
OpenWindows.ShowResizeGeometry: true
^D
#
```

8. Fix '/etc/dt/config/Xaccess'

```
# mkdir /etc/dt
# mkdir /etc/dt/config
# touch /etc/dt/config/Xaccess
```

9. Edit '/etc/system'; add the following line:

```
set semsys:seminfo_semmnu = 60
```

Note that you must reconfigure (i.e., `reboot -- -r`) for this to take effect.

10. `reboot -- -r`.

6.2 Configure NIS

1. The NIS software gets installed as part of the OS; there is no *Server Supplement 1.1* CD like there was with earlier versions of Solaris.
2. We initially configure all systems as NIS servers; we'll later reconfigure most systems to be clients. This makes it easier to break and reconfigure clusters.

Create '`/var/yp/maps/`', which should be owned by root with permissions `drwx-----`:

```
# mkdir /var/yp/maps
# chmod 700 /var/yp/maps
# cd /var/yp/maps
/var/yp/maps#
```

The following are minimal starting points for populating '`/var/yp/maps`':

```
'auto_direct'
/var/yp/maps# cat > auto_direct
/usr/local -rw myname:/export/usr+local
^D
/var/yp/maps# mkdir /export/usr+local
/var/yp/maps# cat > /etc/auto_direct
+auto_direct
^D
/var/yp/maps#
```

Where *myname* is the name of the computer being configured.

```
'auto_home'
/var/yp/maps# cat > auto_home
* myname:/export/home/&
^D
/var/yp/maps# mkdir /export/home
/var/yp/maps#
```

```
'auto_master'
/var/yp/maps# cat > auto_master
/- /etc/auto_direct
/home /etc/auto_home -rw,nosuid
/net -hosts -rw,nosuid
^D
/var/yp/maps#
```

```
'group'
/var/yp/maps# touch group
/var/yp/maps#
```

```
'hosts'
/var/yp/maps# touch hosts
/var/yp/maps#
```

```

'netgroup'
    /var/yp/maps# touch netgroup
    /var/yp/maps#
'passwd'
    /var/yp/maps# touch passwd
    /var/yp/maps#
'shadow'
    /var/yp/maps# touch shadow
    /var/yp/maps#

```

3. Fix permissions:

```

/var/yp/maps# chmod 600 *
/var/yp/maps#

```

4. Edit '/var/yp/Makefile'.

- Uncomment the 'B=-b' line; comment out the 'B=' line.
- Change 'DIR=/etc' to 'DIR=/var/yp/maps'.
- Change 'PWDIR = /etc' to 'PWDIR = /var/yp/maps'
- add a section for auto.direct. Basically just copy all the stuff for auto.home and change auto.home to auto.direct.

5. Create '/var/yp/securenets'. This is for security; the server will only serve hosts listed in this file. Lines in this file look like:

```

/var/yp/maps# cat > securenets
host 99.99.99.99
^D
/var/yp/maps#

```

The IP number - not the DNS name - must be used.

6. Set the NIS domainname to the new cluster's domainname:

```

/var/yp/maps# domainname xyz
/var/yp/maps# domainname > /etc/defaultdomain

```

7. Create the master NIS database:

```

/var/yp/maps# /usr/sbin/ypinit -m

```

8. Fix '/etc/nsswitch.conf'. Everything except passwd, group, hosts, netgroup, automount, and aliases should be 'files'.

9. Test it out by running '/usr/lib/netsvc/yp/ypstart'.

10. Reboot.

6.3 Install /usr/local

This section describes how we populate '/usr/local'.

Before starting, we create '/export/local-src', which we'll use as a staging area to build '/usr/local'. We also create '/export/local-src/tarfiles', which is where we'll save our distribution tarfiles. Finally, we set environment variable T, which we'll use in the recipes below:

```

#!/bin/sh
# mkdir /export/local-src
# cd /export/local-src
/export/local-src# mkdir tarfiles
/export/local-src# export T=/export/local-src/tarfiles
/export/local-src#

```

1. Install GNUzip.1.2.4.SPARC.32bit.Solaris.7.pkg.tar, which we originally obtained from <http://www.sunsite.unc.edu/>. Redistribution and use of GNUzip is allowed under the GNU license.

```

/usr/local/src# tar xf $T/GNUzip.1.2.4.SPARC.32bit.Solaris.7.pkg.tar
/usr/local/src# pkgadd -d .
follow the prompts ...
/usr/local/src# rm -rf GNUzip
/usr/local/src#

```

2. Install GNUtar.1.12.SPARC.32bit.Solaris.7.pkg.tar, which we originally obtained from <http://www.sunsite.unc.edu/>. Redistribution and use of GNUtar is allowed under the GNU license.

```

/export/local-src# /usr/local/bin/zcat \
$T/GNUtar.1.12.SPARC.32bitSolaris.7.pkg.tgz | tar xvf -
/export/local-src# pkgadd -d .
follow the prompts ...
/usr/local/src# rm -rf GΝUtar
/usr/local/src# (cd /usr/local/bin; ln -s tar gtar
/usr/local/src#

```

3. Install GNUGcc.2.95.2.SPARC.32bit.Solaris.7.pkg.tar, which we originally obtained from <http://www.sunsite.unc.edu/>. Redistribution and use of GNUGcc is allowed under the GNU license.

```

/export/local-src# gtar zxf $T/GNUGcc.2.95.2.SPARC.32bitSolaris.7.pkg.tgz
/export/local-src# pkgadd -d .
follow the prompts ...
/usr/local/src# rm -rf GNUGcc
/usr/local/src#

```

4. Install GNUMake-3.78.1.SPARC.32bit.Solaris.7.pkg.tgz, which we originally obtained from <http://www.sunsite.unc.edu/>. Redistribution and use of GNUMake is allowed under the GNU license.

```

/export/local-src# gtar zxf $T/GNUMake-3.78.1.SPARC.32bit.Solaris.7.pkg.tgz
/export/local-src# pkgadd -d .
follow the prompts ...
/export/local-src# rm -rf GNUMake
/export/local-src# (cd /usr/local/bin; ln -s gmake make)
/export/local-src#

```

5. Install perl5.004.04.SPARC.32bit.Solaris.7.pkg.tgz, which we originally obtained from <http://www.sunsite.unc.edu/>. Redistribution and use of Perl is allowed under the Artistic license.

```

/export/local-src# gtar zxf $T/perl5.004.04.SPARC.32bit.Solaris.7.pkg.tgz
/export/local-src# pkgadd -d .

```

follow the prompts ...

```
/export/local-src# rm -rf perl5  
/export/local-src# ln -s /usr/local/bin/perl /usr/bin/perl  
/export/local-src#
```

6. Install m4-1.4.tar.gz. Redistribution and use of m4 is allowed under the GNU license.

```
/export/local-src# gtar zxf $T/m4-1.4.tar.gz  
/export/local-src# cd m4-1.4  
/export/local-src/m4-1.4# ./configure  
/export/local-src/m4-1.4# make install  
/export/local-src/m4-1.4# cd ..  
/export/local-src#
```

7. Install autoconf-2.13.tar.gz. Redistribution and use of autoconf is allowed under the GNU license.

```
/export/local-src# gtar zxf $T/autoconf-2.13  
/export/local-src# cd autoconf-2.13  
/export/local-src/autoconf-2.13# ./configure  
/export/local-src/autoconf-2.13# make M4=/usr/local/bin/m4 install  
/export/local-src/autoconf-2.13# cd ..  
/export/local-src#
```

8. Install automake-1.4.tar.gz. Redistribution and use of automake is allowed under the GNU license.

```
/export/local-src# gtar zxf $T/automake-1.4.tar.gz  
/export/local-src# cd automake-1.4  
/export/local-src/automake-1.4# ./configure  
/export/local-src/automake-1.4# make install  
/export/local-src/automake-1.4# cd ..  
/export/local-src#
```

9. Install libtool-1.3.2.tar.gz. Redistribution and use of libtool is allowed under the GNU license.

```
/export/local-src# gtar zxf $T/libtool-1.3.2.tar.gz  
/export/local-src# cd libtool-1.3  
/export/local-src/libtool-1.3# ./configure  
/export/local-src/libtool-1.3# make install  
/export/local-src/libtool-1.3# cd ..  
/export/local-src#
```

10. Install bash-2.03.tar.gz. Redistribution and use of bash is allowed under the GNU license.

```
/export/local-src# gtar zxf $T/bash-2.03.tar.gz  
/export/local-src# cd bash-2.03  
/export/local-src/bash-2.03# ./configure && make install  
/export/local-src/bash-2.03# cd ..  
/export/local-src#
```

11. Install tcp_wrappers_7.6. See Chapter 1 [Top], page 1. License ???

```
/export/local-src# gtar zxf $T/tcp_wrappers_7.6.tar.gz  
/export/local-src# cd tcp_wrappers_7.6
```

```

/export/local-src/tcp_wrappers_7.6# make REAL_DAEMON_DIR=/usr/sbin \
    STYLE=-DPROCESS_OPTIONS CC=gcc sunos5
/export/local-src/tcp_wrappers_7.6# mkdir /usr/local/sbin
/export/local-src/tcp_wrappers_7.6# cp tcpd tcpdchk tcpdmatch \
    safe_finger try-from /usr/local/sbin
/export/local-src/tcp_wrappers_7.6# cp libwrap.a /usr/local/lib
/export/local-src/tcp_wrappers_7.6# cp tcpd.h /usr/local/include
/export/local-src/tcp_wrappers_7.6# cp *.3 /usr/local/man/man3
/export/local-src/tcp_wrappers_7.6# mkdir /usr/local/man/man5
/export/local-src/tcp_wrappers_7.6# cp *.5 /usr/local/man/man5
/export/local-src/tcp_wrappers_7.6# mkdir /usr/local/man/man8
/export/local-src/tcp_wrappers_7.6# cp *.8 /usr/local/man/man8
/export/local-src/tcp_wrappers_7.6# mkdir /etc/banners
/export/local-src/tcp_wrappers_7.6# cp Banners.Makefile /etc/banners/Makefile
Edit '/etc/inetd.conf', '/etc/hosts.deny', '/etc/hosts.allow', and maybe create
banners under '/etc/banners'.

```

12. Install patch-2.5.4.tar.gz. Redistribution and use of patch is allowed under the GNU license.

```

/export/local-src# gtar zxf $T/patch-2.5.4.tar.gz
/export/local-src# cd patch-2.5.4
/export/local-src/patch-2.5.4# ./configure
/export/local-src/patch-2.5.4# make install
/export/local-src/patch-2.5.4# cd ..
/export/local-src#

```

13. Install ssh-1.2.27.tar.gz See Chapter 1 [Top], page 1. License???

```

/export/local-src# gtar zxf $T/ssh-1.2.27.tar.gz
/export/local-src# cd ssh-1.2.27
/export/local-src/ssh-1.2.27# mkdir rsaref2
/export/local-src/ssh-1.2.27# cd rsaref2
ssh-1.2.27/rsaref2# gtar zxf $T/rsaref20.1996.Z
ssh-1.2.27/rsaref2# cd source
ssh-1.2.27/rsaref2/source# /usr/local/bin/patch < $T/rsaref2.patch
ssh-1.2.27/rsaref2/source# cd ../..
/export/local-src/ssh-1.2.27# cp /usr/local/lib/libwrap.a .
/export/local-src/ssh-1.2.27# cp /usr/local/include/tcpd.h .
/export/local-src/ssh-1.2.27# ./configure --with-rsaref --with-libwrap \
    --with-rsh=/usr/bin/insecure
/export/local-src/ssh-1.2.27# make install
/export/local-src/ssh-1.2.27# cd /usr/bin
/export/local-src/ssh-1.2.27# mkdir insecure
/export/local-src/ssh-1.2.27# mv rsh rlogin rcp insecure
/export/local-src/ssh-1.2.27# cat > /etc/init.d/sshd
#
# /etc/init.d/sshd, /etc/rc3.d/S95sshd, and /etc/rc3.d/K95sshd
#
case "$1" in
'start')

```

```

[ -x /usr/local/sbin/sshd1 ] && /usr/local/sbin/sshd1 && echo "sshd"
;;
'stop')
    echo "sshd stop not yet implemented"
    ;;
*)
    echo "Usage: /etc/init.d/sshd [ start | stop ]"
    ;;
esac
exit 0
^D
/export/local-src/ssh-1.2.27# chmod 500 /etc/init.d/sshd
/export/local-src/ssh-1.2.27# ln -s /etc/init.d/sshd /etc/rc3.d/S95sshd
/export/local-src/ssh-1.2.27# ln -s /etc/init.d/sshd /etc/rc3.d/K95sshd
/export/local-src/ssh-1.2.27# mv /usr/dt/bin/Xsession /usr/dt/bin/Xsession-
real
/export/local-src/ssh-1.2.27# cat > /usr/dt/bin/Xsession
#!/bin/ksh
if [ -x /usr/local/bin/ssh-agent -a -d ~/.ssh ]; then
    /usr/local/bin/ssh-agent /usr/dt/bin/Xsession-real
else
    . /usr/dt/bin/Xsession-real
fi
^D
/export/local-src/ssh-1.2.27# chmod a+x /usr/dt/bin/Xsession
edit /etc/sshd_config; set PermitRootLogin and PermitEmptyPasswords to no.

```

14. Install mved. License???

```

/export/local-src# cp $T/mved /usr/local/bin
/export/local-src# chmod 555 /usr/local/bin/mved
/export/local-src#

```

15. Install super-3.14.tar.gz. License???

```

/export/local-src# gtar zxf $T/super-3.14.tar.gz
/export/local-src# cd super-3.14
/export/local-src/super-3.14# ./configure --sysconfdir=/etc localstatedir=/var/run
/export/local-src/super-3.14# make install
create /etc/super.tab, which might look something like:
/export/local-src/super-3.14# cat > /etc/super.tab
root /usr/local/bin/bash user1 user2
/export/local-src/super-3.14# cd ..
/export/local-src#

```

16. Install ImageMagick-5.2.6.tar.gz Originally obtained from <http://www.ImageMagick.org/>.

```

/export/local-src# gtar zxf $T/ImageMagick-5.2.6.tar.gz
/export/local-src# cd ImageMagick-5.2.6
/export/local-src/ImageMagick-5.2.6# ./configure --without-perl
/export/local-src/ImageMagick-5.2.6# make && make install

```

17. Install emacs-20.6.tar.gz. Redistribution and use of emacs is allowed under the GNU license.

```
/export/local-src# gtar zxf $T/emacs-20.6.tar.gz
/export/local-src# cd emacs-20.6
/export/local-src/emacs-20.6# ./configure --with-x-toolkit=motif
/export/local-src/emacs-20.6# make && make install
/export/local-src/emacs-20.6# cd ..
/export/local-src#
```

18. Install tcsh-6.09.tar.gz. License???

```
/export/local-src# gtar zxf $T/tcsh-6.09.tar.gz
/export/local-src# cd tcsh-6.09.00
/export/local-src/tcsh-6.09.00# ./configure
/export/local-src/tcsh-6.08.00# make install
/export/local-src/tcsh-6.08.00# make install.man
/export/local-src/tcsh-6.08.00# cd ..
/export/local-src#
```

19. Install olvwm4.tar.Z and olvwm4.Patch01. License???

```
/export/local-src# mkdir olvwm4
/export/local-src# cd olvwm4
/export/local-src/olvwm4# gtar zxf $T/olvwm4.tar.Z
/export/local-src/olvwm4# /usr/local/bin/patch -p1 < $T/olvwm4.Patch01
/export/local-src/olvwm4# edit Makefile.sunpro:
Drop '-x O4' from MORECFLAGS; change INSTALLDIR, HELPDIR, MAN1DIR, and
MAN5DIR to /usr/local/..., and CC to gcc.
/export/local-src/olvwm4# edit error.c:
Delete lines 235 and 236, an FPRINTF()
/export/local-src/olvwm4# OPENWINHOME=/usr/openwin make -f Makefile.sunpro
/export/local-src/olvwm4# touch olvwm.info
/export/local-src/olvwm4# OPENWINHOME=/usr/openwin make -f Make-
file.sunpro install
/export/local-src/olvwm4# cd ..
/export/local-src#
```

20. Install bison-1.28.tar.gz. Redistribution and use of bison is allowed under the GNU license.

```
/export/local-src# gtar zxf $T/bison-1.28.tar.gz
/export/local-src# cd bison-1.28
/export/local-src/bison-1.28# ./configure && make install
/export/local-src/bison-1.28# cd ..
/export/local-src#
```

21. Install flex-2.5.4a.tar.gz. Redistribution and use of flex is allowed under the GNU license.

```
/export/local-src# gtar zxf $T/flex-2.5.4a.tar.gz
/export/local-src# cd flex-2.5.4
/export/local-src/flex-2.5.4# ./configure && make install
/export/local-src/flex-2.5.4# cd ..
/export/local-src#
```

22. Install cvs-1.10.8.tar.gz (from <http://download.cyclic.com/pub/>): Redistribution and use of cvs is allowed under the GNU license.

```
/export/local-src# gtar zxf $T/cvs-1.10.8.tar.gz  
/export/local-src# cd cvs-1.10.8  
/export/local-src/cvs-1.10.8# ./configure && make install  
/export/local-src/cvs-1.10.8# cd ..  
/export/local-src#
```

23. Install tcl8.3.0.tar.gz and tk8.3.0.tar.gz, which we obtained from <http://dev.scriptics.com/software/tcltk/>. License???

```
/export/local-src# gtar zxf $T/tcl8.3.0.tar.gz  
/export/local-src# cd tcl8.3.0/unix  
/export/local-src/tcl8.3.0/unix# ./configure --enable-gcc --enable-shared  
/export/local-src/tcl8.3.0/unix# make install  
/export/local-src/tcl8.3.0/unix# cd ../../..  
/export/local-src# gtar zxf $T/tk8.3.0.tar.gz  
/export/local-src# cd tk8.3.0/unix  
/export/local-src/tk8.3.0/unix# ./configure --enable-gcc  
/export/local-src/tk8.3.0/unix# make install  
/export/local-src/tk8.3.0/unix# cd ../../..  
/export/local-src# (cd /usr/local/bin; ln -s tclsh8.3 tclsh)  
/export/local-src# (cd /usr/local/bin; ln -s wish8.3 wish)  
/export/local-src#
```

24. Install less-340.tar.gz Redistribution and use of less is allowed under the GNU license.

```
/export/local-src# gtar zxf $T/less-340.tar.gz  
/export/local-src# cd less-340  
/export/local-src/less-340# ./configure && make install  
/export/local-src/less-340# cd ..  
/export/local-src#
```

25. Install cpio2.4.2.tar.gz Redistribution and use of cpio is allowed under the GNU license.

```
/export/local-src# gtar zxf $T/cpio2.4.2.tar.gz  
/export/local-src# cd cpio2.4.2  
/export/local-src/cpio2.4.2# ./configure && make install  
/export/local-src/cpio2.4.2# cd ..  
/export/local-src#
```

26. Install gdb-4.18.tar.gz Redistribution and use of gdb is allowed under the GNU license.

```
/export/local-src# gtar zxf $T/gdb-4.18.tar.gz  
/export/local-src# cd gdb-4.18  
/export/local-src/gdb-4.18# ./configure  
/export/local-src/gdb-4.18# make install  
/export/local-src/gdb-4.18# cd ..  
/export/local-src#
```

27. Install xv-3.10a.tar.gz. License???

```
/export/local-src# tar zxf $T/xv-3.10a.tar.gz  
/export/local-src# cd xv-3.10a  
/export/local-src/xv-3.10a#  
/export/local-src/xv-3.10a# make CC=gcc  
/export/local-src/xv-3.10a# make install  
/export/local-src/xv-3.10a# cd ..
```

```
/export/local-src#
```

28. Install JLex 1.2.3. (We got it from <http://www.cs.princeton.edu/~appel/modern/java/JLex/>). License???

```
/export/local-src# mkdir /usr/local/JLex
/export/local-src# cd /usr/local/JLex
/usr/local/JLex# cp $T/JLex-1.2.3-Main.java Main.java
/usr/local/JLex# javac Main.java
/usr/local/JLex# cd /export/local-src
/export/local-src#
```

29. Install acroread (we got sunsparc-rs-405.tar.gz from <http://www.adobe.com/> and renamed it acroread-sunsparc-rs-405.tar.gz): License???

```
/export/local-src# gtar zxf acroread-sunsparc-rs-405.tar.gz
/export/local-src# cd SSOLRS.install
/export/local-src/SSOLRS.install# ./INSTALL
accept the license agreement
install in /usr/local/Acrobat4 (not /opt/Acrobat4)
yes, create the directory
/export/local-src/SSOLRS.install# cd ..
/export/local-src# (cd /usr/local/bin; ln -s ..//Acrobat4/bin/acroread .)
/export/local-src#
```

30. Install netpbm-1mar1994.tar.gz, which we obtained from <ftp://ftp.xemacs.org/pub/xemacs/aux/>. License???

```
/export/local-src# gtar zxf $T/netpbm-1mar1994.tar.gz
/export/local-src# cd netpbm
/export/local-src/netpbm# make && make install
/export/local-src/netpbm# cd ..
/export/local-src#
```

31. Install navigator-v472-us.sparc-sun-solaris2.5.tar.gz, which we got from <http://www.netscape.com/>: License???

```
/export/local-src# gtar zxf $T/navigator-v472-us.sparc-sun-solaris2.5.tar.gz
/export/local-src# cd navigator-v472.sparc-sun-solaris2.5.1
/export/local-src/navigator-v472.sparc-sun-solaris2.5.1# ./ns-install
The 'Location for Navigator software' is /usr/local/netscape.
Yes, create it.
/export/local-src/navigator-v472.sparc-sun-solaris2.5.1# cd ..
/export/local-src# (cd /usr/local/bin; ln -s ..//netscape/netscape .)
/export/local-src#
```

32. Install teTeX (teTeX-src-1.0.6.tar.gz and teTeX-texmf-1.0.tar.gz): License???

```
/export/local-src# cd /usr/local/share
/usr/local/share# mkdir texmf
/usr/local/share# cd texmf
/usr/local/share/texmf# gtar zxf $T/teTeX-texmf-1.0.tar.gz
/usr/local/share/texmf# cd /export/local-src
/export/local-src# gtar zxf $T/teTeX-src-1.0.6.tar.gz
/export/local-src# cd teTeX-1.0
/export/local-src/teTeX-1.0# ./configure --prefix=/usr/local \
```

```
-disable-multiplatform
```

```
/export/local-src/teTeX-1.0# make world
/export/local-src/teTeX-1.0# cd ..
/export/local-src# texconfig dvips paper letter
/export/local-src# texconfig xdvi us
/export/local-src# allcm
/export/local-src# texconfig
Select "Default Mode", then select "ljfive".
Select "dvips", then select "global", then select "letter",
then select "CMD", then just press return, then exit texconfig.
/export/local-src#
```

33. dvipdf-0.12.7b.tar.gz License???

```
/export/local-src# gtar zxf $T/dvipdf-0.12.7b.tar.gz
/export/local-src# cd dvipdfm
/export/local-src/dvipdfm# ./configure && make install
/export/local-src/dvipdfm# cp latex-support/dvipdfm.def \
/usr/local/share/texmf/tex/latex/graphics
/export/local-src/dvipdfm# mktexlsr
/export/local-src/dvipdfm# cd ..
/export/local-src#
```

34. install texinfo-3.12i+texi2www.tar.gz Redistribution and use of texinfo is allowed under the GNU license.

```
/export/local-src# gtar zxf $T/texinfo-3.12i+texi2www.tar.gz
/export/local-src# cd texinfo-3.12i+texi2www
/export/local-src/texinfo-3.12i+texi2www# ./configure
texinfo-3.12i+texi2www# make install
texinfo-3.12i+texi2www# make TEXMF=/usr/local/share/texmf install-tex
/export/local-src/texinfo-3.12i+texi2www# cd ..
/export/local-src#
```

35. Install jpegsrc.v6b.tar.gz, which is needed for xemacs. We originally obtained this from <ftp://ftp.uu.net.graphics/jpeg/> by way of <http://www.xemacs.org/>. License???

```
/export/local-src# gtar zxf $T/jpegsrc.v6b.tar.gz
/export/local-src# cd jpeg-6b
/export/local-src/jpeg-6b# ./configure && make install && make install-lib
/export/local-src/jpeg-6b# cd ..
/export/local-src#
```

36. Install xpm-3.4k.tar.g, which we originally obtained from <ftp://ftp.x.org/contrib/libraries/> by way of <http://www.xemacs.org/>. License???

```
/export/local-src# gtar zxf $T/xpm-3.4k.tar.gz
/export/local-src# cd xpm-3.4k
/export/local-src/xpm-3.4k# xmkmf -a
/export/local-src/xpm-3.4k# cd lib
/export/local-src/xpm-3.4k/lib# make CC=gcc CCOPTIONS= PICFLAGS=-fpic
install
NOTE: this installed /usr/openwin/bin/sxpm, /usr/openwin/bin/cxpm,
```

```
/usr/openwin/lib/libXpm.so, /usr/openwin/lib/libXpm.so.4.11,
/usr/openwin/include/X11/X11/xpm.h
/export/local-src/xpm-3.4k/lib# cd ../..
/export/local-src# mv /usr/openwin/include/X11/X11/xpm.h /usr/openwin/include/X11/xpm
/export/local-src# rmdir /usr/openwin/include/X11/X11
/export/local-src#
```

37. Install tiff-v3.4. We originally obtained this from <ftp://ftp.sgi.com/graphics/tiff/> by way of <http://www.xemacs.org/>. License???

```
/export/local-src# gtar zxf $T/tiff-v3.4.tar
/export/local-src# cd tiff-v3.4
/export/local-src/v3.4beta037# ./configure
answer yes (the default) when asked
/export/local-src/v3.4beta037# make && make install
/export/local-src/v3.4beta037# cd ..
/export/local-src#
```

38. Install zlib-1.1.3.tar.gz License???

```
/export/local-src# gtar zxf $T/zlib-1.1.3.tar.gz
/export/local-src# cd zlib-1.1.3
/export/local-src/zlib-1.1.3# ./configure && make && make install
/export/local-src/zlib-1.1.3# cd ..
/export/local-src#
```

39. Install libpng-1.0.5.tar.gz License???

```
/export/local-src# gtar zxf $T/libpng-1.0.5.tar.gz
/export/local-src# cd libpng-1.0.5
libpng-1.0.5# make -f scripts/makefile.solaris LD=gcc install
/export/local-src/libpng-1.0.5# cd ..
/export/local-src#
```

40. Install xemacs-21.1.9.tar.gz and xemacs-sumo-2000-01-24.tar.gz Redistribution and use of xemacs is allowed under the GNU license.

Reboot the computer to ldconfig the shared libraries (i.e. libXpm.so) we just installed.

```
/export/local-src# gtar zxf $T/xemacs-21.1.9.tar.gz
/export/local-src# gtar zxf $T/xemacs-21.1.9-elc.tar.gz
/export/local-src# gtar zxf $T/xemacs-21.1.9-info.tar.gz
/export/local-src# cd xemacs-21.1.9
/export/local-src/xemacs-21.1.9# ./configure --lockdir=/var/lock/xemacs
/export/local-src/xemacs-21.1.9# make install
/export/local-src/xemacs-21.1.9# cd ..
/export/local-src# mkdir /var/lock
/export/local-src# ln -s /usr/local/lib/xemacs-21.1.9 /usr/local/lib/xemacs
/export/local-src# cd /usr/local/lib/xemacs-21.1.9
/usr/local/lib/xemacs# gtar zxf $T/xemacs-sumo-2000-01-24.tar.gz
/usr/local/lib/xemacs# cd /export/local-src
/export/local-src#
```

41. install md5.tar.gz License???

```
/export/local-src# mkdir md5
```

```

/export/local-src# cd md5
/export/local-src/md5# gtar zxf $T/md5.tar.gz
Edit Makefile; change 'cc' to 'gcc'
/export/local-src/md5# make
/export/local-src/md5# cp md5 /usr/local/bin
/export/local-src/md5# cd ..
/export/local-src#

```

42. Install ghostscript-5.10.tar.gz Redistribution and use of ghostscript is allowed under the GNU license.

```

/export/local-src# gtar zxf $T/ghostscript-5.10.tar.gz
/export/local-src# cd gs5.10
/export/local-src/gs5.10# gtar zxf $T/ghostscript-5.10jpeg.tar.gz
/export/local-src/gs5.10# cd jpeg-6a
/export/local-src/gs5.10/jpeg-6a# ./configure && make
/export/local-src/gs5.10/jpeg-6a# cd ..
/export/local-src/gs5.10# gtar zxf $T/ghostscript-5.10zlib.tar.gz
/export/local-src/gs5.10# mv zlib-1.1.3 zlib
/export/local-src/gs5.10# cd zlib
/export/local-src/gs5.10/zlib# ./configure && make
/export/local-src/gs5.10/zlib# cd ..
/export/local-src/gs5.10# gtar zxf $T/ghostscript-5.10libpng.tar.gz
/export/local-src/gs5.10# mv libpng-0.96 libpng
/export/local-src/gs5.10# cd libpng
/export/local-src/gs5.10/libpng# make CC=gcc
/export/local-src/gs5.10/libpng# cd ..
/export/local-src/gs5.10# edit unix-gcc.mak
Set XINCLUDE to '-I/usr/openwin/include'
Set XLIBDIRS to '-L/usr/openwin/lib -R/usr/openwin/lib'
Set INSTALL_PROGRAM to cp and INSTALL_DATA to cp
/export/local-src/gs5.10# make -f unix-gcc.mak install
/export/local-src/gs5.10# cd /usr/local/share/ghostscript
/usr/local/share/ghostscript# mkdir fonts
/usr/local/share/ghostscript# cd fonts
share/ghostscript/fonts# gtar zxf $T/ghostscript-fonts-std-5.10.tar.gz
share/ghostscript/fonts# gtar zxf $T/ghostscript-fonts-other-5.10.tar.gz
share/ghostscript/fonts# cd /export/local-src
/export/local-src#

```

43. Install ghostview 1.5 Redistribution and use of ghostview is allowed under the GNU license.

```

/export/local-src# gtar zxf $T/ghostview-1.5.tar.gz
/export/local-src# cd ghostview-1.5
/export/local-src/ghostview-1.5# OPENWINHOME=/usr/openwin xmkmf
/export/local-src/ghostview-1.5# edit Makefile:
Change cc to gcc (two places)
Change CCOPTIONS to '-DSYSV -DSVR4 -O
Comment out CDEBUGFLAGS
Change EXTRA_LDOPTIONS to '-R/usr/openwin/lib'

```

```
/export/local-src/ghostview-1.5# make
/export/local-src/ghostview-1.5# cp ghostview /usr/local/bin
/export/local-src/ghostview-1.5# cd ..
/export/local-src#
```

44. Install glib-1.2.7.tar.gz and gtk+-1.2.7.tar.gz. Redistribution and use of glib and gtk+ are allowed under the GNU license.

```
/export/local-src# gtar zxf $T/glib-1.2.7.tar.gz
/export/local-src# cd glib-1.2.7
/export/local-src/glib-1.2.7# ./configure && make install
/export/local-src/glib-1.2.7# cd ..
/export/local-src# gtar zxf $T/gtk+-1.2.7.tar.gz
/export/local-src# cd gtk+-1.2.7
/export/local-src/gtk+-1.2.7# LD_LIBRARY_PATH=/usr/local/lib ./configure
/export/local-src/gtk+-1.2.7# make install
/export/local-src/gtk+-1.2.7# cd ..
/export/local-src#
```

45. Install gimp-1.0.4.tar.gz and gimp-data-extras-1.0.0.tar.gz Redistribution and use of the gimp is allowed under the GNU license.

```
/export/local-src# gtar zxf $T/gimp-1.0.4.tar.gz
/export/local-src# cd gimp-1.0.4
/export/local-src/gimp-1.0.4# LD_LIBRARY_PATH=/usr/local/lib ./configure
/export/local-src/gimp-1.0.4# make install
/export/local-src/gimp-1.0.4# cd ..
/export/local-src# gtar zxf $T/gimp-data-extras-1.0.0.tar.gz
/export/local-src# cd gimp-data-extras-1.0.0
/export/local-src/gimp-data-extras-1.0.0# ./configure && make install
/export/local-src/gimp-data-extras-1.0.0# cd ..
/export/local-src#
```

46. postgresql-6.5.3.tar.gz License???

```
/export/local-src# gtar zxf $T/postgresql-6.5.3.tar.gz
/export/local-src# cd postgresql-6.5.3/src
/export/local-src/postgresql-6.5.3/src# ./configure --with-tcl
/export/local-src/postgresql-6.5.3/src# mkdir /usr/local/pgsql
/export/local-src/postgresql-6.5.3/src# gmake install
NOTE: This only installs the postmaster engine; more configuration is needed before a pgsql database can be created or used. In general, only one machine per cluster needs to run postmaster.
/export/local-src/postgresql-6.5.3/src# cd ../../..
/export/local-src#
```

47. Install cdrecord-1.8.tar.gz, from <ftp://ftp.fokus.gmd.de/pub/unix/cdrecord/> cdrecord-1.8.tar.gz: License???

```
/export/local-src# gtar zxf $T/cdrecord-1.8.tar.gz
/export/local-src# cd cdrecord-1.8
/export/local-src/cdrecord-1.8# gmake CCOM=gcc INS_BASE=/usr/local \
LD_LIBRARY_PATH=/usr/local/lib RUNPATH='`R/usr/local/lib`' install
/export/local-src/cdrecord-1.8# cd ..
```

```

/export/local-src#
48. Install apache_1.3.12.tar.gz with php License???
/export/local-src# gtar zxf $T/apache_1.3.12.tar.gz
/export/local-src# cd apache_1.3.12
/export/local-src/apache_1.3.12# ./configure --sysconfdir=/etc/apache \
--enable-module=proxy
/export/local-src/apache_1.3.12# make install
/export/local-src/apache_1.3.12# cd ..
/export/local-src# cat > /etc/init.d/apache
#!/bin/sh
[ -f /etc/apache/httpd.conf ] \
&& /usr/local/apache/sbin/apachectl $ \
&& echo "httpd"
^D
/export/local-src# chmod 744 /etc/init.d/apache
/export/local-src# ln /etc/init.d/apache /etc/rc3.d/S95apache
/export/local-src# ln /etc/init.d/apache /etc/rc3.d/K95apache
/export/local-src# rm /etc/apache/httpd.conf

49. Install '/usr/local/javalibs/jcchart220.jar'.
50. imlib-1.9.8 (needed for enlightenment)
    /export/local-src# gtar zxf $T/imlib-1.9.8.tar.gz
    /export/local-src# cd imlib-1.9.8
    /export/local-src/imlib-1.9.8# LD_LIBRARY_PATH=/usr/local/lib ./configure
    /export/local-src/imlib-1.9.8# LD_LIBRARY_PATH=/usr/local/lib make install
    /export/local-src/imlib-1.9.8# cd ..
    /export/local-src#
51. fnlib-0.5.tar.gz (needed for enlightenment)
    /export/local-src# gtar zxf $T/fnlib-0.5.tar.gz
    /export/local-src# cd fnlib-0.5
    /export/local-src/fnlib-0.5# LD_LIBRARY_PATH=/usr/local/lib ./configure
    /export/local-src/fnlib-0.5# LD_LIBRARY_PATH=/usr/local/lib make install
    /export/local-src/fnlib-0.5# cd ..
    /export/local-src#
52. freetype-1.1.tar.gz (needed for enlightenment)
    /export/local-src# gtar zxf $T/freetype-1.1.tar.gz
    /export/local-src# cd freetype-1.1
    /export/local-src/freetype-1.1# LD_LIBRARY_PATH=/usr/local/lib ./configure
    edit lib/arch/unix/Makefile; fix path to install_sh.
    /export/local-src/freetype-1.1# LD_LIBRARY_PATH=/usr/local/lib make install
    /export/local-src/freetype-1.1# cd ..
    /export/local-src#
53. enlightenment-0.16.4.tar.gz
    /export/local-src# gtar zxf $T/enlightenment-0.16.4.tar.gz
    /export/local-src# cd enlightenment-0.16.4
    enlightenment-0.16.4# LD_LIBRARY_PATH=/usr/local/lib ./configure
    enlightenment-0.16.4# LD_LIBRARY_PATH=/usr/local/lib make install

```

```

enlightenment-0.16.4# cd /usr/local/bin
/usr/local/bin# ln -s ../enlightenment/bin/enlightenment .
/usr/local/bin# cd /export/local-src
/export/local-src#
Note that /usr/local/lib must be in LD_LIBRARY_PATH in order to
run enlightenment.

```

54. samba-2.0.6.tar.gz

```

/export/local-src# gtar zxf $T/samba-2.0.6.tar.gz
/export/local-src# cd samba-2.0.6/source
samba-2.0.6/source# ./configure --with-automount \
--with-privatedir=/var/samba/private \
--with-lockdir=/var/samba/locks \
--with-swatdir=/var/samba/swat \
samba-2.0.6/source# mkdir /var/samba
samba-2.0.6/source# make && make install
samba-2.0.6/source# cd ../..
/export/local-src#

```

55. xautolock-pl15.tgz, which we obtained from <ftp://ftp.x.org/contrib/applications/>.

```

/export/local-src# gtar zxf $T/xautolock-pl15.tgz
/export/local-src# cd xautolock-pl15
/export/local-src/xautolock-pl15# xmkmf
/export/local-src/xautolock-pl15# make CC=gcc CCOPTIONS= PICFLAGS=-
fpic \
                                BINDIR=/usr/local/bin install
/export/local-src/xautolock-pl15# cd ..
/export/local-src#

```

56. xxx

57. StarOffice License???

6.4 Make a CDROM

At this point the workstation is configured well enough to make a CDROM that will help install other systems.

6.4.1 Create and Populate the ‘/export/cdrom-image’ Directory

The first step in making our CDROM is to create the files and directories we want on the CDROM. We'll put these under ‘/export/cdrom’. The CDROM will contain:

- ‘AAAREADME’ (named so it appears first in an `ls` listing) briefly explains what the CD is all about.
- ‘INSTALL’ is a perl script that performs the bulk of the installation.
- ‘etc/’ contains files and directories that get installed in ‘/etc’.
- ‘export/’ contains ‘/usr/local’ (in ‘/export/usr+local’) and a handful of mostly empty home directories.

- ‘install-solaris7.ascii’ is this document, created via `makeinfo --no-headers --no-validate install-solaris7.texi > install-solaris7.ascii`.
- ‘slash/’ contains user root’s ‘.profile’, ‘.bashrc’, and ‘.Xdefaults’.
- ‘usr/’ contains the replacement ‘/usr/dt/bin/Xsession’, and also ‘/usr/openwin/lib/libXpm.so.4.11’. (The installation script will create symbolic link ‘/usr/openwin/libXpm.so’).
- ‘var/’ contains ‘var/yp/Makefile’, ‘var/yp/maps’, and ‘var/samba/’.
- ‘zzz/’ (‘zzz/README’, really) protects against a bug in some versions of mkisofs, where the very last file wouldn’t make it into the filesystem.

6.4.2 Create /export/cdrom-image.iso

```
/export# mkisofs -d -D -R -o cdrom-image.iso cdrom-image
it's normal to get a bunch of messages.
```

6.4.3 Burn the CDROM

We usually have to do this on a different computer where cdrecord has been installed (we haven’t been able to get cdrecord to work under Solaris; however it works just fine under FreeBSD):

```
# cdrecord -v -dev=2,0 -data cdrom-image.iso
the 2 in -dev=2,0 is the SCSI target
```

Appendix A Misc procedures

A.1 Running sys_unconfig to change NIS domain and/or IP address

The `sys_unconfig` command allows you to change your NIS domain or IP address.

1. Run `sys_unconfig`. The system will halt. After the machine halts you can power it off to move it to its new location.
2. Boot the computer. If you never powered it off, type `boot` at the ‘ok’ prompt.
3. Select ‘0’ (English) at the ‘Select a Language’ prompt.
4. Select ‘5’ (USA ISO8859-1) at the next prompt.
5. At the next prompt enter the machine’s short host name. I.e, enter ‘sunland’, not ‘sunland.gsfc.nasa.gov’. Press `F2` to continue.
6. At the ‘Networked’ prompt select ‘Yes’. Press `F2` to continue.
7. At the ‘IP Address’ prompt, enter the machines IP address. Press `F2` to continue.
8. At the ‘Confirm Information’ prompt, press `F2` to continue.
9. At the ‘Name Service’ prompt, select ‘None’ and press `F2` to continue.
10. At the ‘Confirm Information’ prompt, press `F2` to continue.

11. At the ‘Subnets’ prompt, select ‘Yes’.
12. At the ‘Netmask’ prompt, enter the netmask.
13. At the first ‘Time Zone’ prompt, select ‘United States’ and press **(F2)** to continue.
14. At the second ‘Time Zone’ prompt, select the appropriate time zone and press **(F2)** to continue.
15. At the ‘Date and Time’ prompt, make appropriate changes and press **(F2)** to continue.
16. At the ‘Confirm Information’ prompt, press **(F2)** to continue.
17. Enter a Root password. This should be something hard to guess (and hopefully easy to remember). Don’t use “ti^EZ2g” (this is not easy to guess – think about it).
18. Re-enter the Root password.
19. No, we don’t want ‘this automatic power-saving shutdown’.
20. No, we don’t want ‘the system to ask again, when you reboot next’.
21. Log in as root
22. Check ‘/etc/hosts’. Make sure there’s an entry for this machine, and make sure that entry has the fully qualified name first. Edit if necessary. ‘/etc/hosts’ should look something like:

```
127.0.0.1      localhost
128.184.232.163  yaya.yoyodyne.com yaya loghost
```
23. Check ‘/etc/auto_direct’; make sure it doesn’t reference the old host name. Edit if necessary.
24. Check ‘/etc/auto_home’; make sure it doesn’t reference the old host name. Edit if necessary.
25. Create ‘/etc/defaultdomain’.
26. Create ‘/etc/defaultrouter’.
27. Check ‘/etc/resolv.conf’.
28. [NIS server only] Check ‘/var/yp/maps/auto_direct’.
29. [NIS server only] Check ‘/var/yp/maps/auto_home’.
30. [NIS server only] Check ‘/var/yp/maps/hosts’.
31. [NIS server only] Run **domainname ‘cat /etc/defaultdomain’**
32. [NIS server only] Run **ypinit -m**
33. [NIS server only] Check ‘/var/yp/secrenerts’. Make sure your new IP address is included. BEWARE OF TYPOS!
34. Check ‘/etc/nsswitch.conf’. It should look like ‘/etc/nsswitch.files’ except the *passwd*, *group*, *hosts*, *netgroup*, *automount*, and *aliases* should say ‘*files nis*’ instead of ‘*files*’.
35. Reboot.

A.2 Misc tasks

Getting a new disk to mount during boot:

Edit '/etc/vfstab'; for example, to mount the disk at target 1 as '/x' add the line:

```
/dev/dsk/c0t1d0s2    /dev/rdsk/c0t1d0s2  /x  ufs  2  yes  -
```

Changing the X server's resolution and color depth:

Let's suppose your brand new Ultra 5 comes up at 1280x1024x76Hz with 8 bit color and you'd like to change it to 1152x900x76 with 24 bit color:

First, change the resolution. The exact command depends on the kind of frame buffer you have, so The first thing is to figure out what kind of frame buffer it has and how to control the frame buffer. On an Ultra 5 the command is '/usr/sbin/m64config'; this was inferred via

```
$ ls -l /dev/fb
lrwxrwxrwx  1 root      root           42 Jun 12 01:30 /dev/fb -> /devices/p
$ ls -l /usr/sbin/*config
/usr/sbin/auditconfig   /usr/sbin/ifconfig      /usr/sbin/sysidconfig
/usr/sbin/drvcfg        /usr/sbin/m64config
/usr/sbin/hostconfig     /usr/sbin/sys-unconfig
```

On another machine, the command might be '/usr/sbin/ffbconfig'.

Anyway, to change an Ultra 5's resolution use a command like:

```
# /usr/sbin/m64config -res 1152x900x76
```

Once the resolution is right, you can change the color depth by copying '/usr/dt/config/Xservers' to '/etc/dt/config/Xservers' and editing '/etc/dt/config/Xservers': change the last line from

```
:0 Local local_uid@console root /usr/openwin/bin/Xsun :0 -nobanner
to
:0 Local local_uid@console root /usr/openwin/bin/Xsun :0 -dev
/dev/fb defdepth 16 -nobanner
(one long line)
```

Note that older Ultra 5 and Ultra 10 systems only support 8 bit color depth.

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(Index is nonexistent)

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